Use your annotating and talking to the text techniques while you read through the first problem. Then record your givens.

High School is having a dance to fundraise money for cancer research. Student tickets are
guest may be admitted for $50. They are having the dance at a local rec center. The rec cer
rent for the night, so they have to make at least that much to break even. At least 40 Ford
must buy tickets for the dance to happen. How many students and guests must go to the
make money for cancer research?

or more ≥

Unknown

Given:

Student tickets: $30

Guest tickets: $50

$3,000 at least or more } money

At least 40 FHS students — students

Unknowns:

I. Define your variables.

x: Students & y: guests

Equations: – more than one

II. Write a system of linear inequalities to model this.

Money: $30x + 50y \geq 3000$

$-30x \quad -30x$

$\frac{50y}{50} \geq \frac{-30x+3000}{50}$

$y \geq \frac{-30}{50}x + 60$

Solid above

Students: $x \geq 40$

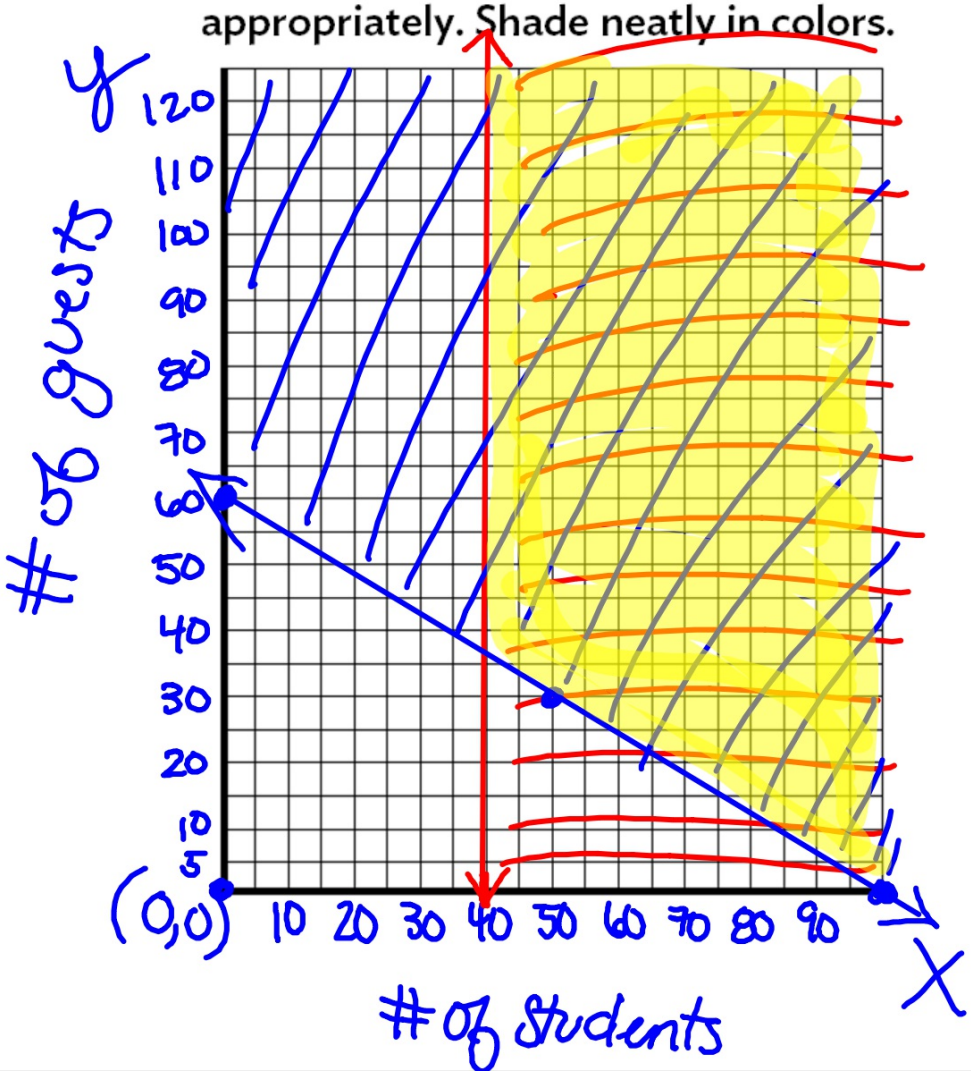
x: # of students

≥: at least

40

Solve:

III. Graph the system. LABEL your axes appropriately. Shade neatly in colors.



Sentence: (Explanation of solution)

IV. Will the following amounts of students and guests yield a profit? (Put yes or no)

Yes _____ 70 students & 80 guests (70, 80)

x y

Yes _____ 110 students & 20 guests (110, 20)

NO _____ 50 students & 20 guests (50, 20)

NO _____ 60 students & 10 guests (60, 10)

yes _____ 120 students & 120 guests (120, 120)